Drinking Water Surveillance Program

OTTAWA (BRITANNIA) WATER TREATMENT PLANT

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OTTAWA (BRITANNIA)
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (BRITANNIA) WATER TREATMENT PLANT
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 supplies were being monitored.

The Ottawa (Britannia) Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection, post pH adjustment and fluoridation. This plant has a design capacity of 247 x 1000 m^3/day and in conjunction with the Lemieux Island plant, serves a population of approximately 515,000.

Samples of the raw and treated water from the Ottawa (Britannia) Water Treatment Plant plus water samples from two distribution system sites were taken on a monthly basis and analyzed for approximately 180 parameters. Parameters were divided into the following groups Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticide and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Specific Pesticides and Chlorophenols were analysed in November only.

A summary of results is shown in Table A.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related ODWOs.

Of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1989 the DWSP sampling results indicated that the Ottawa (Britannia) Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA)

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2			SITE 3		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSI
BACTERIOLOGICAL	30	26	86	33	3	9	27	7	25	24	10	41	12	7	
CHEMISTRY (FLD)	30	30	100	72	72	100	109	106	97	87	82	94	48	44	
CHEMISTRY (LAB)	200	165	82	240	198	82	322	280	86	280	252	90	140	123	
METALS	240	129	53	288	121	42	447	201	44	376	179	47	188	80	
CHLOROAROMATICS	140	0	0	154	1	0	126	1	0	112	0	0	56	1	
CHLOROPHENOLS	6	0	0	6	0	0	.	.	.	.	.	.	.	.	
PAH	159	0	0	190	0	0	.	.	.	.	.	.	.	.	
PESTICIDES & PCB	340	0	0	374	0	0	254	0	0	259	0	0	84	0	
PHENOLICS	10	9	90	11	10	90	.	.	.	.	.	.	.	.	
SPECIFIC PESTICIDES	37	0	0	29	0	0	9	0	0	8	0	0	4	0	
VOLATILES	290	1	0	348	36	10	290	31	10	232	24	10	116	12	1
TOTAL	1482	360		1745	441		1584	626		1378	547		648	267	

NO KNOWN HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (BRITANNIA) WATER TREATMENT PLANT
1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 supplies were being monitored.

The DWSP was initiated at the Ottawa (Britannia) Water Treatment Plant in the fall of 1986. Annual reports were published for 1986 (ISBN 0-7729-2550-X), 1987 and 1988(ISSN 0839-9026).

This report contains information and results for 1989.

In order to accommodate the increasing number of plants on the DWSP and to facilitate the timely completion of the 1989 annual reports, plants with two or more years of published data will receive an abbreviated annual report. This report maintains the same general format as in previous years but does not include a comprehensive discussion of results. For more detail on the parameters analysed and discussion of results, consult the 1987 and 1988 reports.

PLANT DESCRIPTION

The Ottawa (Britannia) Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection, post pH adjustment and fluoridation. Activated silica is added to enhance the coagulation / flocculation process. It has a design capacity of 247.0 x 1000 m^3/day and sample day flows ranging from 91 x 1000 m^3/day to 281 x 1000 m^3/day. This plant, in conjunction with the Lemieux Island plant, serves a population of approximately 515,000.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLE LOCATIONS

Water samples were obtained from five DWSP approved locations;

i) Plant Raw - The water originated from the intake pipe prior to chlorination and was sampled through a stainless steel line. The sample tap is located in the plant laboratory.

ii) Plant Treated - The water originated from the highlift discharge after addition of all treatment

chemicals and was sampled through a copper sample line. The sample tap is located in the plant laboratory.

iii) Distribution System - Site 1 - This house is approximately 3 kilometers from the plant. Water was sampled, through copper plumbing, from the kitchen tap.

iv) Distribution System - Site 2 - This house is approximately 8 kilometers from the plant. Water was sampled, through copper plumbing, from the basement laundry tap. Sampling was discontinued in August.

v) Distribution System - Site 3 - The distance that this house is from the plant is unavailable, as is the type of plumbing and sampling location. Sampling was started in September.

SAMPLING AND ANALYSIS

Plant operating personnel perform analyses on parameters for process control (Table 1).

The Ottawa (Britannia) Water Treatment Plant was sampled for approximately 180 parameters on a monthly basis. The Specific Pesticides and Chlorophenols scans were sampled in November only. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed in the raw and treated water from the plant. As of August the

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

OTTAWA (BRITANNIA) WATER TREATMENT PLANT

Figure 2

OTTAWA (BRITANNIA) WATER TREATMENT PLANT

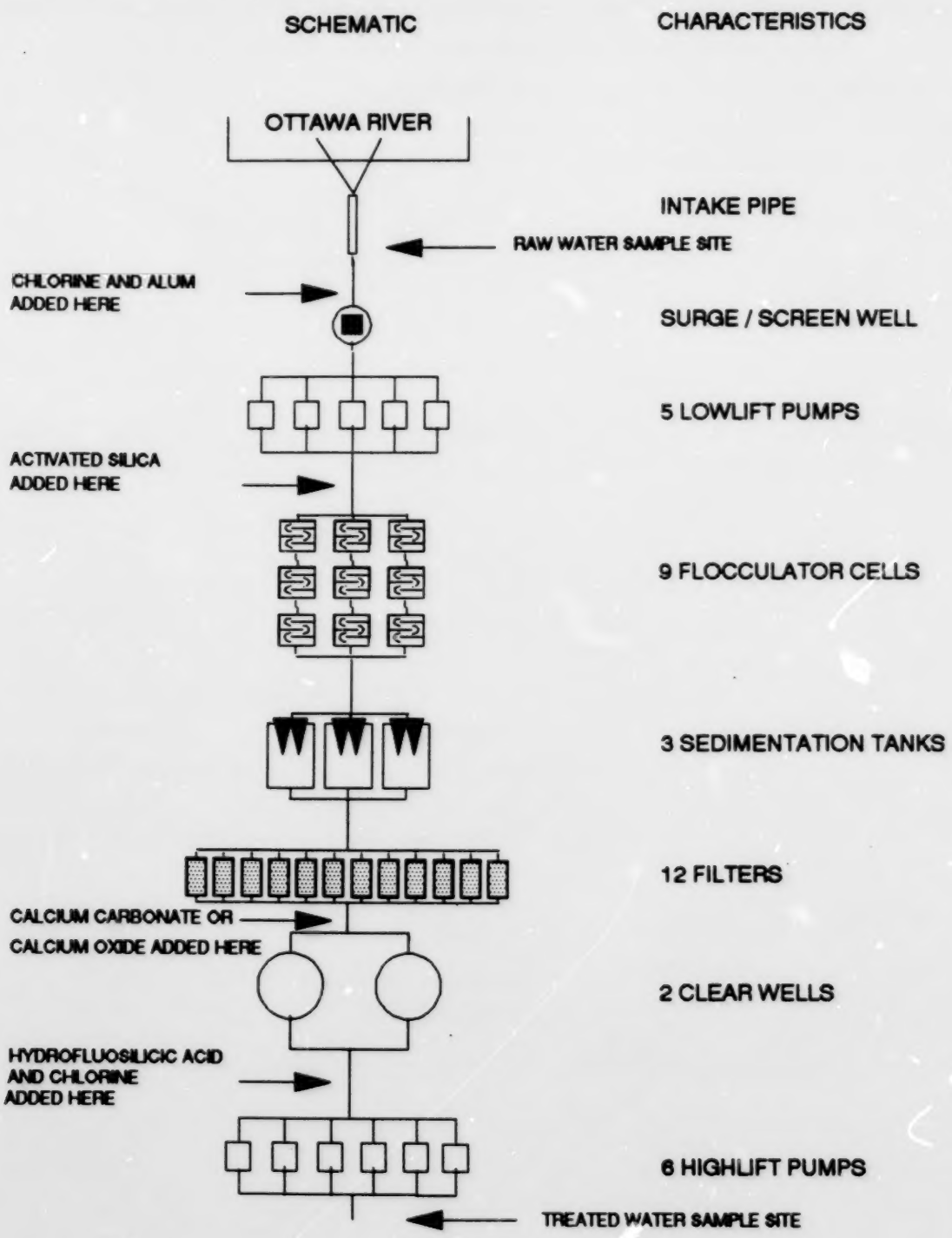

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

IN-PLANT MONITORING OTTAWA (BRITANNIA) WATER TREATMENT PLANT 1989

PARAMETER	LOCATION	FREQUENCY
Chlorine residual-combined	Mixing chamber	daily
	Filter effluent	daily
	Filter influent	daily
total	Filter effluent	daily
	Treated tap	continuous
	Filter influent	daily
	Plant effluent	daily
	Mixing chamber	daily
Fluoride	Plant effluent	continuous
		daily
pH	Plant effluent	daily
	Filter effluent	daily
	Raw water tap	daily
		continuous
	Mixing chamber	daily
	Treated tap	continuous
Residual Aluminum	Treated tap	weekly
Silica	Raw water tap	weekly
	Treated tap	weekly
Turbidity	Raw water tap	daily
	Filter influent	continuous
		daily
	Filter effluent	daily
	Treated tap	daily

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

OTTAWA (BRITANNIA) WATER TREATMENT PLANT

LOCATION:	CASSELS ROAD OTTAWA, ONTARIO (613-828-2727)
SOURCE:	RAW WATER SOURCE - OTTAWA RIVER
RATED CAPACITY:	247 (1000 M3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	A. HARTRY
MINISTRY REGION:	SOUTHEASTERN
DISTRICT OFFICER:	MR. R.A. DUNN

MUNICIPALITY SERVED	POPULATION
CITY OF OTTAWA	304,000
GLOUCESTER	76,589
VANIER	18,877
NEPEAN	85,737
KANATA	20,529
GOULBOURN	9,720

triazine pesticides were only analyzed in the raw and treated water. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered onto the DWSP data base as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported. Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analysed in the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461 -X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occuring or are treatment by-products.

IN THIS REPORT, DISCUSSION IS LIMITED TO THE TREATED AND DISTRIBUTED WATER AND ADDRESSES ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES AND ORGANICS WITH DETECTED POSITIVE RESULTS.

Results of treated and distributed water indicate that no applicable health related guidelines were exceeded.

Bacteriology

Standard Plate Count

The ODWO for Standard Plate Count of 500 counts/mL (indicating some deterioration) was exceeded, three times in the Site 2 water, in May, June and July and once in the Site 3 water, in September.

Inorganic and Physical Parameters

Aluminum

The plant operational guideline of 100 µg/L as Al in the water leaving the plant was exceeded six times in the treated water.

Organic Parameters

Toluene

Toluene was detected at 1.15 µg/L in the October Site 1 water sample. The Aesthetic Objective used by Health and Welfare Canada is 24.0 µg/L.

Trihalomethanes

Trihalomethanes (THMs) are acknowledged to be produced during the water treatment process and will always occur in chlorinated waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. All Total THM occurrences, ranging from 41.0 to 243 µg/L, were well below the ODWO of 350 µg/L.

CONCLUSIONS

The Ottawa (Britannia) Water Treatment plant for the sample year of 1989 produced good quality water at the plant and this was maintained in the distribution system.

No health related guidelines, for organic or inorganic parameters, were exceeded during 1986, 1987, 1988 or 1989.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WBS (BRITANNIA) SAMPLE DAY CONDITIONS FOR 1989

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)							
			PRE-CHLORINATION	COAGULATION	COAGULATION AID	FLUORIDATION	ACTIVATION	POST PH ADJUSTMEN		POST-CHLORINA
ATE	DELAY * TIME(HRS)	FLOW (1000M3)	CHLORINE	ALUM LIQUID	SODIUM SILICATE	HYDROFLUOSILICIC ACID	ALUM LIQUID	CALCIUM CARBONATE	CALCIUM OXIDE	CHLORINE
AN 25	3.0	164.0	1.20	32.00	1.75	.90	3.50	15.00	.	1.30
EB 28	4.7	109.0	1.20	30.00	2.00	1.00	4.00	14.00	.	1.30
AR 29	3.5	141.0	1.20	30.00	2.50	1.00	5.00	14.00	.	1.30
PR 26	3.5	141.0	1.20	36.00	2.25	1.00	4.50	8.60	.	1.30
AY 24	2.6	186.0	1.20	28.00	1.50	1.00	3.00	8.60	.	1.30
UN 28	3.5	141.0	1.70	26.00	1.00	1.00	2.00	11.00	.	1.50
UL 26	1.8	247.0	3.20	28.00	1.25	1.00	2.50	8.60	.	1.50
UG 30	3.5	141.0	3.20	28.00	1.25	1.00	2.50	8.60	.	1.50
EP 27	2.6	186.0	3.20	28.00	1.25	1.00	2.50	14.00	.	1.50
CT 25	5.4	91.0	2.20	30.00	1.25	1.00	2.50	.	8.60	1.50
OV 28	5.1	186.0	2.20	34.00	1.00	1.00	2.00	.	8.60	1.20
EC 20	3.2	281.0	1.80	36.00	4.00	.	8.00	.	8.60	1.20

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

		RAW			TREATED			SITE 1			SITE 2			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	10	9	0	.	.	.	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	11	3	0	9	6	0	8	6	0	4	4	0
	TOTAL COLIFORM MF	10	7	0	11	0	0	9	0	0	8	1	0	4	0	0
	T COLIFORM BCKGRD MF	10	10	0	11	0	0	9	1	0	8	3	0	4	3	0
*TOTAL SCAN BACTERIOLOGICAL		30	26	0	33	3	0	27	7	0	24	10	0	12	7	0
*TOTAL GROUP BACTERIOLOGICAL		30	26	0	33	3	0	27	7	0	24	10	0	12	7	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	.	12	12	0	17	17	0	14	13	0	8	8	0
	FLD CHLORINE FREE	.	.	.	12	12	0	17	15	0	11	8	0	8	4	0
	FLD CHLORINE (TOTAL)	.	.	.	12	12	0	18	18	0	14	13	0	8	8	0
	FLD PH	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	FLD TEMPERATURE	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	FLD TURBIDITY	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
*TOTAL SCAN CHEMISTRY (FLD)		30	30	0	72	72	0	109	107	0	87	82	0	48	44	0
CHEMISTRY (LAB)	ALKALINITY	10	10	0	12	12	0	18	18	0	16	16	0	8	8	0
	CALCIUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	CYANIDE	10	0	0	12	0	0	9	0	0	8	0	1	4	0	0
	CHLORIDE	10	10	0	12	12	0	18	18	0	16	16	0	8	8	0
	COLOUR	10	10	0	12	12	0	18	17	1	16	16	0	8	8	0
	CONDUCTIVITY	10	10	0	12	12	0	18	18	0	16	16	0	8	8	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
CHEMISTRY (LAB)	FLUORIDE	10	3	7	12	10	2	18	16	2	16	16	0	8	8	0
	HARDNESS	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	IONCAL	10	10	0	12	12	0	19	18	0	16	16	0	8	8	0
	LANGELIERS INDEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MAGNESIUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	SODIUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	AMMONIUM TOTAL	10	6	1	12	0	8	18	3	5	16	7	6	8	2	3
	NITRITE	10	6	4	12	5	7	18	6	11	16	5	11	8	1	7
	TOTAL NITRATES	10	10	0	12	12	0	18	16	0	16	16	0	8	8	0
	NITROGEN TOT KJELD	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	PH	10	10	0	12	12	0	18	18	0	16	16	0	8	8	0
	PHOSPHORUS FIL REACT	10	2	8	12	6	5	.	.	.	.	.	.	.	.	.
	PHOSPHORUS TOTAL	10	8	2	12	9	3	.	.	.	.	.	.	.	.	.
	SULPHATE	10	10	0	12	12	0	18	18	0	16	16	0	8	8	0
	TURBIDITY	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
*TOTAL SCAN CHEMISTRY (LAB)		200	165	22	240	198	25	322	280	19	280	252	18	140	123	10
METALS	SILVER	10	0	2	12	0	1	19	0	6	16	0	6	8	0	1
	ALUMINUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	ARSENIC	10	8	2	12	1	11	19	2	17	16	0	16	8	0	8
	BARIUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	BORON	10	1	9	12	0	12	19	2	17	16	1	15	8	0	8
	BERYLLIUM	10	0	3	12	0	3	19	0	2	16	0	3	8	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
METALS	CADMIUM	10	0	4	12	0	5	19	0	8	16	1	8	8	0	0
	COBALT	10	2	8	12	2	10	19	0	19	16	0	16	8	0	8
	CHROMIUM	10	6	3	12	4	5	19	9	8	16	8	7	8	1	4
	COPPER	10	10	0	12	9	3	19	19	0	16	16	0	8	8	0
	IRON	10	10	0	12	0	12	19	0	19	16	0	16	8	0	8
	MERCURY	10	4	6	12	4	5	10	1	7	8	8	0	4	4	0
	MANGANESE	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	MOLYBDENUM	10	1	9	12	1	11	19	0	19	16	0	16	8	0	8
	NICKEL	10	2	8	12	1	7	19	1	12	16	2	13	8	0	5
	LEAD	10	9	1	12	3	5	19	19	0	16	15	1	8	6	2
	ANTIMONY	10	9	1	12	11	1	19	17	2	16	16	0	8	6	2
	SELENIUM	10	0	3	12	0	3	19	0	3	16	0	5	8	0	0
	STRONTIUM	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
	TITANIUM	10	10	0	12	12	0	19	17	2	16	16	0	8	7	1
	THALLIUM	10	0	6	12	0	6	19	0	11	16	0	6	8	0	3
	URANIUM	10	0	10	12	1	6	19	0	8	16	0	11	8	0	1
	VANADIUM	10	7	3	12	12	0	19	19	0	16	16	0	8	8	0
	ZINC	10	10	0	12	12	0	19	19	0	16	16	0	8	8	0
*TOTAL SCAN METALS		240	129	78	288	121	106	447	201	160	376	179	139	188	80	59
*TOTAL GROUP INORGANIC & PHYSICAL		470	324	100	600	391	131	878	588	179	743	513	157	376	247	69
CHLOROAROMATICS	HEXACHLOROBUTADIENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	123 TRICHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
CHLOROAROMATICS	1234 T-CHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	1235 T-CHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	124 TRICHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	1245 T-CHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	135 TRICHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	HCB	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	HEXACHLOROETHANE	10	0	0	11	1	0	9	1	0	8	0	0	4	1	0
	OCTACHLOROSTYRENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	PENTACHLOROBENZENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	236 TRICHLOROTOLUENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	245 TRICHLOROTOLUENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	26A TRICHLOROTOLUENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
*TOTAL SCAN CHLOROAROMATICS		140	0	0	154	1	0	126	1	0	112	0	0	56	1	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	245-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	246-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PENTACHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		6	0	0	6	0	0	0	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PAH	PHENANTHRENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	ANTHRACENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	FLUORANTHENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	PYRENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	CHRYSENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	5	0	0	5	0	0	.	.	.	.	.	.	.	.	.
	BENZO(E) PYRENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	PERYLENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	BENZO(A) PYRENE	4	0	0	5	0	0	.	.	.	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	BENZO(B) CHRYSENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
	CORONENE	10	0	0	12	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN PAH		159	0	0	190	0	0	0	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	ALPHA BHC	10	0	3	11	0	4	9	0	4	8	0	2	4	0	2
	BETA BHC	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	LINDANE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	GAMMA CHLORDANE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	DIELDRIN	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	METHOXYCHLOR	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	ENDOSULFAN I	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	ENDOSULFAN II	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	ENDRIN	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	ENDOSULFAN SULPHATE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	HEPTACHLOR EPOXIDE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	HEPTACHLOR	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	MIREX	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	OXYCHLORDANE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	OPDDT	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	PCB	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	DDD	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	PPDDE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	PPDDT	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	AMETRINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	ATRAZINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	ATRATONE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	CYANAZINE (BLADEX)	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	D-ETHYL ATRAZINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	D-ETHYL SIMAZINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	PROMETONE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	PROPAZINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PESTICIDES & PCB	PROMETRYNE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	METRIBUZIN (SENCOR)	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	SIMAZINE	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	ALACHLOR (LASSO)	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
	METOLACHLOR	10	0	0	11	0	0	5	0	0	7	0	0	.	.	.
*TOTAL SCAN PESTICIDES & PCB		340	0	3	374	0	4	254	0	4	259	0	2	84	0	2
PHENOLICS	PHENOLICS	10	9	0	11	10	1	.	.	.	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		10	9	0	11	10	1	0	0	0	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	10	0	0	11	0	0	9	0	0	8	0	0	4	0	0
	2,4,5-T	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2,4-D	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2,4-DB	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DICAMBA	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	SILVEX	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DIAZINON	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DICHLOROVOS	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	CHLORPYRIFOS	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
SPECIFIC PESTICIDES	ETHION	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	MALATHION	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	MEVINPHOS	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	METHYL PARATHION	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	METHYLTRITHION	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PARATHION	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PHORATE	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	RELDAN	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	RONNEL	1	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	BENOMYL	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	CARBOFURAN	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	CICP	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	DIALLATE	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	EPTAM	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	IPC	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	PROPOXUR	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	CARBARYL	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	BUTYLATE	1	0	0	0	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		37	0	0	29	0	0	9	0	0	8	0	0	4	0	0
VOLATILES	BENZENE	10	0	1	12	0	2	10	0	1	8	0	2	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

		SITE														
		RAW			TREATED			SITE 1			SITE 2			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	TOLUENE	10	0	2	12	0	5	10	1	5	8	0	4	4	0	1
	ETHYLBENZENE	10	0	2	12	0	6	10	0	2	8	0	4	4	0	0
	P-XYLENE	10	0	0	12	0	1	10	0	0	8	0	0	4	0	0
	M-XYLENE	10	0	1	12	0	3	10	0	2	8	0	3	4	0	0
	O-XYLENE	10	0	1	12	0	3	10	0	4	8	0	4	4	0	0
	STYRENE	10	0	3	12	0	8	10	0	8	8	0	8	4	0	2
	1,1 DICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	METHYLENE CHLORIDE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	T1,2DICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	1,1 DICHLOROETHANE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	CHLOROFORM	10	1	8	12	12	0	10	10	0	8	8	0	4	4	0
	111, TRICHLOROETHANE	10	0	1	12	0	1	10	0	0	8	0	0	4	0	1
	1,2 DICHLOROETHANE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	CARBON TETRACHLORIDE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	1,2 DICHLOROPROPANE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	TRICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	DICHLOROBROMOMETHANE	10	0	0	12	12	0	10	10	0	8	8	0	4	4	0
	112 TRICHLOROETHANE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	CHLORODIBROMOMETHANE	10	0	0	12	0	1	10	0	1	8	0	1	4	0	0
	T-CHLOROETHYLENE	10	0	0	12	0	2	10	0	0	8	0	1	4	0	0
	BROMOFORM	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	1122 T-CHLOROETHANE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	CHLOROBENZENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	1,4 DICHLOROBENZENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	1,3 DICHLOROBENZENE	10	0	0	12	0	0	10	0	0	8	0	1	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (BRITANNIA)

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
VOLATILES	1,2 DICHLOROBENZENE	10	0	0	12	0	0	10	0	0	8	0	0	4	0	0
	ETHLYENE DIBROMIDE	10	0	0	12	0	0	10	0	1	8	0	0	4	0	0
	TOTL TRIHALOMETHANES	10	0	4	12	12	0	10	10	0	8	8	0	4	4	0
*TOTAL SCAN VOLATILES		290	1	23	348	36	32	290	31	24	232	24	28	116	12	4
*TOTAL GROUP ORGANIC		982	10	26	1112	47	37	679	32	28	611	24	30	260	13	6
TOTAL		1482	360	126	1745	441	168	1584	627	207	1378	547	187	648	267	75

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria
5. Maximum Contaminant Level Goal (MCLG)

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IP	No Data: Insufficient Preservative
!IS	No Data: Insufficient Sample

!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL								
FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)			
JAN	4 T48	.	.	.	.	.	.	.
FEB	19 T48	.	.	.	.	.	.	.
MAR	12	.	.	.	.	.	.	.
APR	16	.	.	.	.	.	.	.
JUN	BDL	.	.	.	.	.	.	.
JUL	14	.	.	.	.	.	.	.
AUG	117	.	.	.	.	.	.	.
SEP	118 A3C	.	.	.	.	.	.	.
OCT	112	.	.	.	.	.	.	.
DEC	8	.	.	.	.	.	.	.
STANDRD PLATE CNT MF ( )			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)			
JAN	.	0 <=>	.	0 <=>	.	4 <=>	.	.
FEB	.	0 <=>	.	.	.	1 <=>	.	.
MAR	.	2 <=>	.	41 T48	.	190 T48	.	.
APR	.	1 <=>	.	10	.	19	.	.
MAY	.	143	.	.	.	2140	.	.
JUN	.	.	.	.	.	2900	.	.
JUL	.	0 <=>	.	310	.	650	.	.
AUG	.	21	.	49	.	16	.	.
SEP	.	1 <=>	.	21	.	.	.	700
OCT	.	250	.	14	.	.	.	80
NOV	.	0 <=>	.	7 <=>	.	.	.	29
DEC	.	0 <=>	.	1 <=>	.	.	.	113

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)			
JAN	188 A3C	0 T48	.	0 T24	.	0 T06	.	.
FEB	120 T48	0 T48	.	.	.	0 T24	.	.
MAR	1060 A3C	0	.	0 T48	.	0 T48	.	.
APR	84 A3C	0	.	0	.	0	.	.
MAY	.	0	.	.	.	0	.	.
JUN	BDL	.	.	.	.	0	.	.
JUL	818 <=>	0	.	0	.	1 A3C	.	.
AUG	530 A3C	0	.	0	.	0	.	.
SEP	1000 A3C	0	.	0	.	.	.	0 A3C
OCT	1000 A3C	0	.	0	.	.	.	0
NOV	.	0	.	0	.	.	.	0
DEC	40 <=>	0	.	0	.	.	.	0
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A			
JAN	3880 A3C	0 T48	.	0 T24	.	0 T06	.	.
FEB	308 T48	0 T48	.	.	.	0 T24	.	.
MAR	48000 >	0	.	2 T48	.	290 T48	.	.
APR	3040 A3C	0	.	0	.	0	.	.
MAY	.	0	.	.	.	62	.	.
JUN	8600	.	.	.	.	0	.	.
JUL	19909	0	.	0	.	960 A3C	.	.
AUG	24000 >	0	.	0	.	0	.	.
SEP	40000 >	0	.	0	.	.	.	2400 >
OCT	40000 >	0	.	0	.	.	.	85
NOV	.	0	.	0	.	.	.	17
DEC	260	0	.	0	.	.	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	RAW	TREATED	WATER TREATMENT PLANT SITE 1 STANDING	WATER TREATMENT PLANT SITE 1 FREE FLOW	DISTRIBUTION SYSTEM SITE 2 STANDING	DISTRIBUTION SYSTEM SITE 2 FREE FLOW	DISTRIBUTION SYSTEM SITE 3 STANDING	DISTRIBUTION SYSTEM SITE 3 FREE FLOW
CHEMISTRY (FLD)								
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.350	.050	.100	.050	.050	.	.
FEB	.	.300	.	.	.	.050	.	.
MAR	.	.900	.	.	.050	.100	.	.
APR	.	.100	.050	.100	.050	.050	.	.
MAY	.	.100	.	.	.	.050	.	.
JUN	.	.200	.050	.	.050	.050	.	.
JUL	.	.100	.050	.100	.050	.050	.	.
AUG	.	.300	.010	.050	.000	.100	.	.
SEP	.	.200	.100	.150	.	.	.010	.010
OCT	.	.200	.050	.100	.	.	.050	.100
NOV	.	.050	.050	.150	.	.	.050	.100
DEC	.	.070	.050	.050	.	.	.100	.050
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.900	.100	.250	.	.250	.	.
FEB	.	1.400	.	.	.	.050	.	.
MAR	.	.400	.	.200	.	.050	.	.
APR	.	1.300	.	.150	.	.100	.	.
MAY	.	1.300	.	.	.	.050	.	.
JUN	.	1.400	.100	.	.000	.000	.	.
JUL	.	1.300	.050	.100	.050	.050	.	.
AUG	.	1.500	.000	.100	.000	.010	.	.
SEP	.	1.700	.000	.150	.	.	.000	.000
OCT	.	1.500	.050	.100	.	.	.000	.050
NOV	.	1.200	.050	.300	.	.	.050	.050

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	.	1.000	.050	.050	.	.	.000	.050
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	1.250	.150	.350	.050	.300	.	.
FEB	.	1.700	.	.	.	.100	.	.
MAR	.	1.300	.	.200	.050	.150	.	.
APR	.	1.400	.050	.250	.050	.150	.	.
MAY	.	1.400	.	.	.	.100	.	.
JUN	.	1.600	.150	.	.050	.050	.	.
JUL	.	1.400	.100	.200	.100	.100	.	.
AUG	.	1.800	.010	.150	.000	.110	.	.
SEP	.	1.900	.100	.300	.	.	.010	.010
OCT	.	1.700	.100	.200	.	.	.050	.150
NOV	.	1.300	.100	.450	.	.	.100	.150
DEC	.	1.070	.100	.100	.	.	.100	.100
FLD PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	7.100	7.900	7.800	7.900	7.600	7.700	.	.
FEB	6.900	8.200	.	.	7.500	7.900	.	.
MAR	6.900	7.900	7.500	7.500	7.500	7.500	.	.
APR	7.300	7.900	7.500	7.500	7.500	7.600	.	.
MAY	.	8.100	.	.	7.400	7.700	.	.
JUN	7.200	7.700	7.500	.	7.500	7.700	.	.
JUL	7.300	6.800	7.300	7.300	7.100	7.300	.	.
AUG	7.300	8.100	7.900	8.100	8.100	8.100	.	.
SEP	7.400	7.500	7.700	7.600	.	.	7.900	6.900

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	7.200	8.400	7.500	7.700	.	.	7.500	7.700
NOV	.	8.600	8.100	8.300	.	.	8.100	8.300
DEC	7.200	9.200	7.300	7.500	.	.	7.500	7.500
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)			
JAN	3.000	1.800	26.000	7.000	23.000	6.000	.	.
FEB	2.500	1.000	.	.	14.000	5.000	.	.
MAR	3.000	1.500	25.000	4.000	22.000	5.000	.	.
APR	6.500	4.500	24.000	7.000	24.000	7.000	.	.
MAY	.	14.500	.	.	21.000	11.000	.	.
JUN	21.000	19.900	15.500	.	23.000	15.000	.	.
JUL	27.000	25.500	27.000	19.000	20.000	19.000	.	.
AUG	23.000	22.000	2.400	19.000	24.000	20.000	.	.
SEP	19.000	17.500	25.000	18.000	.	.	21.000	18.000
OCT	12.200	10.000	24.000	16.000	.	.	22.000	14.000
NOV	.	3.000	26.000	13.000	.	.	22.000	10.000
DEC	3.200	3.000	28.000	11.000	.	.	22.000	6.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)			
JAN	3.800	.400	.280	.220	.460	.260	.	.
FEB	4.800	.510	.	.	.680	.320	.	.
MAR	5.800	.360	.360	.270	.440	.350	.	.
APR	3.800	.340	.310	.480	.360	.340	.	.
MAY	.	.300	.	.	.390	.300	.	.
JUN	2.500	.430	.230	.	1.100	.400	.	.
JUL	2.100	.280	.110	.520	.410	.260	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	1.400	.340	.680	.400	.330	.220	.	.
SEP	2.800	.390	.200	.220	.	.	.420	.320
OCT	2.400	.440	.130	.140	.	.	.380	.190
NOV	.	.450	.120	.200	.	.	.230	.160
DEC	2.600	.540	.400	.300	.	.	.470	.510

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE		WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)								
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)			
JAN	22.500	29.100	28.600	26.900	29.200	28.200	.	.
FEB	21.800	27.900	.	.	29.200	28.300	.	.
MAR	21.900	29.000	27.900	27.100	28.200	27.600	.	.
APR	20.300	23.600	24.600	22.900	28.000	25.900	.	.
MAY	.	22.600	.	.	26.600	26.200	.	.
JUN	18.800	22.000	26.000	.	24.300	24.000	.	.
JUL	21.900	6.500	27.100	24.400	26.300	26.200	.	.
AUG	21.700	25.300	26.100	26.000	27.800	27.200	.	.
SEP	22.700	23.100	26.600	25.400	.	.	28.700	28.000
OCT	26.700	31.400	28.600	28.600	.	.	30.300	29.700
NOV	.	33.600	34.500	IIS	.	.	36.100	36.200
DEC	25.300	31.900	29.000	28.000	.	.	29.600	29.100
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)			
JAN	8.600	19.200	18.200	18.200	18.800	18.200	.	.
FEB	8.600	19.000	.	.	19.800	19.400	.	.
MAR	9.200	19.000	19.400	18.600	20.000	19.400	.	.
APR	8.400	18.000	18.200	17.600	19.400	18.800	.	.
MAY	.	17.200	.	.	18.800	18.400	.	.
JUN	7.800	16.200	18.200	.	18.000	17.800	.	.
JUL	7.600	10.000	18.200	18.400	18.000	18.000	.	.
AUG	8.800	17.000	18.600	18.800	20.200	19.200	.	.
SEP	9.600	18.800	20.000	19.600	.	.	20.800	20.200
OCT	9.400	19.600	18.600	18.200	.	.	18.600	18.400
NOV	.	24.000	24.000	23.800	.	.	25.800	25.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 198?

SITE			WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	10.160	21.800	20.300	20.020	.	.	20.200	19.900
CYANIDE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = .200 (A1)			
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	.002 <T	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	IIP	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)			
JAN	1.800	3.800	4.300	4.000	4.300	4.200	.	.
FEB	5.000	5.200	.	.	5.000	5.000	.	.
MAR	4.000	6.100	6.100	5.900	6.900	5.700	.	.
APR	2.400	4.400	4.600	4.700	5.000	4.700	.	.
MAY	.	4.900	.	.	5.500	5.400	.	.
JUN	1.800	4.800	5.100	.	4.900	5.000	.	.
JUL	2.300	6.400	6.500	6.400	6.300	6.300	.	.
AUG	2.400	6.500	6.600	6.600	6.700	6.700	.	.
SEP	2.600	6.900	7.100	7.100	.	.	7.100	7.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	3.300	6.600	6.600	6.700	.	.	6.400	6.400
NOV	.	7.300	6.900	IIR	.	.	7.100	7.000
DEC	2.100	5.000	5.200	5.300	.	.	5.500	5.200
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)			
JAN	34.000	3.000	3.000	2.500	3.000	3.000	.	.
FEB	36.000	2.500	.	.	3.500	3.500	.	.
MAR	35.500	3.500	4.500	4.000	3.500	3.500	.	.
APR	38.000	2.500	3.000	1.500 <T	2.500	2.500	.	.
MAY	.	4.000	.	.	4.500	4.000	.	.
JUN	39.000	4.500	4.000	.	4.500	4.500	.	.
JUL	36.500	3.500	4.000	3.000	3.500	3.000	.	.
AUG	31.500	3.500	3.500	3.500	3.000	3.500	.	.
SEP	30.000	2.500	3.000	3.000	.	.	3.500	3.000
OCT	33.500	3.500	4.000	3.500	.	.	3.500	3.500
NOV	.	3.000	3.000	IIS	.	.	3.000	3.000
DEC	43.500	4.500	4.500	4.500	.	.	4.000	4.500
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)			
JAN	76	138	139	135	140	138	.	.
FEB	77	138	.	.	140	138	.	.
MAR	84	141	145	142	150	143	.	.
APR	75	136	139	137	148	141	.	.
MAY	.	123	.	.	133	132	.	.
JUN	67	118	120	.	122	121	.	.
JUL	74	102	139	135	137	137	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	73	128	131	131	138	138	.	.
SEP	78	134	141	139	.	.	143	143
OCT	88	149	145	145	.	.	145	146
NOV	.	164	162	IIS	.	.	169	169
DEC	87	152	148	146	.	.	151	150
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)			
JAN	.060	.980	1.000	.980	.960	.980	.	.
FEB	.040 <T	.920	.	.	.920	.940	.	.
MAR	.040 <T	.920	.940	.940	.920	.920	.	.
APR	.060	.960	.960	.960	.960	.940	.	.
MAY	.	.920	.	.	.920	.900	.	.
JUN	.040 <T	.880	.940	.	.920	.940	.	.
JUL	.060	1.040	1.200	1.140	1.080	1.100	.	.
AUG	.040 <T	.040 <T	.240 RRV	.140 RRV	1.100	1.100	.	.
SEP	.040 <T	1.120	1.060	1.080	.	.	1.080	1.080
OCT	.040 <T	1.020	1.060	1.060	.	.	1.020	1.020
NOV	.	1.080	1.020	IIS	.	.	1.000	.980
DEC	.040 <T	.040 <T	.040 <T	.040 <T	.	.	.500	.500
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)			
JAN	31.000	58.000	55.000	55.000	56.000	55.000	.	.
FEB	31.000	56.000	.	.	58.000	57.000	.	.
MAR	33.000	58.000	58.000	56.000	60.000	58.000	.	.
APR	29.000	53.000	54.000	52.000	57.000	55.000	.	.
MAY	.	50.000	.	.	54.000	53.000	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	RAW	TREATED	WATER TREATMENT PLANT SITE 1 STANDING	SITE 1 FREE FLOW	DISTRIBUTION SYSTEM SITE 2 STANDING	SITE 2 FREE FLOW	SITE 3 STANDING	SITE 3 FREE FLOW
JUN	28.000	49.000	54.000	.	53.000	52.000	.	.
JUL	28.000	34.000	55.000	55.000	54.000	53.000	.	.
AUG	31.000	52.000	56.000	56.000	59.000	57.000	.	.
SEP	33.000	56.000	60.000	59.000	.	.	61.000	60.000
OCT	34.000	60.000	58.000	56.000	.	.	57.000	57.000
NOV	.	73.000	72.000	71.000	.	.	76.000	74.000
DEC	35.800	64.800	61.500	60.500	.	.	60.900	60.100
IONCAL (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	8.088	3.992	.235	3.517	1.891	.490	.	.
FEB	2.607	7.833	.	.	9.297	9.675	.	.
MAR	9.670	8.960	8.374	8.641	8.536	10.530	.	.
APR	7.066	2.835	2.133	2.171	.825	2.602	.	.
MAY	.	1.322	.	.	.028	.292	.	.
JUN	9.096	5.232	8.684	.	9.497	9.527	.	.
JUL	.531	4.011	2.990	7.369	2.090	1.324	.	.
AUG	3.539	.901	2.761	2.961	5.890	2.589	.	.
SEP	9.375	10.380	9.891	10.490	.	.	8.937	6.751
OCT	.766	2.622	2.635	.667	.	.	.673	.126
NOV	.	8.769	7.686	.000 NAF	.	.	8.486	6.245
DEC	1.715	2.423	3.538	2.793	.	.	5.423	4.908
LANGELIERS INDEX (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	-1.720	-.257	-.849	-.953	-.836	-.784	.	.
FEB	-1.494	-.760	.	.	-.814	-.805	.	.
MAR	-1.546	-.955	-.934	-1.064	-.999	-1.008	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
APR	-1.524	-1.026	-.984	-1.049	-.814	-.899	.	.
MAY	.	-1.118	.	.	-1.013	-1.019	.	.
JUN	-1.846	-1.544	-1.471	.	-1.187	-1.176	.	.
JUL	-1.514	-2.625	-.832	-.961	-.899	-.901	.	.
AUG	-1.584	-.727	-.625	-.492	-.525	-.337	.	.
SEP	-1.419	-1.145	-.920	-.938	.	.	-.841	-.864
OCT	-1.302	-.770	-.902	-.911	.	.	-.867	-.851
NOV	.	-.709	-.707	.	.	.	-.639	-.631
DEC	-1.252	-.659	-.819	-.840	.	.	-.834	-.797
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)			
JAN	2.300	2.400	2.200	2.400	2.300	2.400	.	.
FEB	2.200	2.100	.	.	2.200	2.200	.	.
MAR	2.300	2.500	2.300	2.400	2.300	2.300	.	.
APR	2.000	2.000	2.000	2.000	2.100	1.900	.	.
MAY	.	1.800	.	.	1.900	1.800	.	.
JUN	2.000	2.000	2.000	.	1.900	1.800	.	.
JUL	2.200	2.300	2.400	2.200	2.100	2.000	.	.
AUG	2.200	2.400	2.300	2.200	2.200	2.200	.	.
SEP	2.300	2.200	2.400	2.400	.	.	2.300	2.200
OCT	2.600	2.700	2.700	2.700	.	.	2.400	2.600
NOV	.	3.100	2.900	2.900	.	.	2.900	2.900
DEC	2.500	2.550	2.600	2.550	.	.	2.500	2.550
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)			
JAN	2.400	2.800	2.800	2.600	2.800	3.000	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	3.000	3.400	.	.	3.200	3.200	.	.
MAR	3.200	3.800	3.600	3.600	3.600	3.600	.	.
APR	2.400	2.800	3.000	2.800	3.200	3.000	.	.
MAY	.	2.200	.	.	2.400	2.600	.	.
JUN	2.200	2.000	2.800	.	2.000	2.200	.	.
JUL	2.200	2.400	2.400	2.400	2.400	2.200	.	.
AUG	2.200	2.600	2.400	2.400	2.400	2.400	.	.
SEP	2.600	3.000	3.000	3.000	.	.	3.000	3.000
OCT	3.400	3.600	3.600	3.600	.	.	3.600	3.600
NOV	.	3.400	3.200	3.200	.	.	3.200	3.400
DEC	2.200	3.200	2.000	2.000	.	.	2.100	2.100
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)			
JAN	.038	.004 <T	.004 <T	.004 <T	.010	.004 <T	.	.
FEB	.054	.008 <T	.	.	.004 <T	.006 <T	.	.
MAR	.090	.008 <T	BDL	BDL	.002 <T	.014	.	.
APR	.040	.002 <T	BDL	BDL	.004 <T	BDL	.	.
MAY	.	BDL	.	.	.002 <T	.016	.	.
JUN	.022	.004 <T	.024	.	.022	.034	.	.
JUL	.048	.008 <T	.014	.010	.026	.036	.	.
AUG	BDL	.002 <T	BDL	.002 <T	BDL	BDL	.	.
SEP	BDL	BDL	BDL	BDL	.	.	.004 <T	.004 <T
OCT	BDL	.004 <T	.004 <T	BDL	.	.	BDL	BDL
NOV	.	BDL	.002 <T	IIS	.	.	.010	.016
DEC	.002 <T	BDL	BDL	BDL	.	.	BDL	.006 <T
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)			

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	.006	.003 <T	.004 <T	.002 <T	.002 <T	.002 <T	.	.
FEB	.005	.001 <T	.	.	.002 <T	.001 <T	.	.
MAR	.012	.007	.006	.005	.007	.005	.	.
APR	.008	.005	.005	.006	.005	.004 <T	.	.
MAY	.	.001 <T	.	.	.002 <T	.001 <T	.	.
JUN	.003 <T	.007	BDL	.	.004 <T	.003 <T	.	.
JUL	.008	.005	.010	.007	.009	.009	.	.
AUG	.003 <T	.001 <T	.001 <T	.001 <T	.003 <T	.001 <T	.	.
SEP	.004 <T	.002 <T	.002 <T	.002 <T	.	.	.002 <T	.011
OCT	.005	.006	.002 <T	.002 <T	.	.	.003 <T	.003 <T
NOV	.	.001 <T	.003 <T	IIS	.	.	.003 <T	.002 <T
DEC	.004 <T	.002 <T	.003 <T	.003 <T	.	.	.002 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)			
JAN	.215	.210	BDL	BDL	.215	.200	.	.
FEB	.215	.210	.	.	.220	.210	.	.
MAR	.280	.275	.270	.270	.275	.265	.	.
APR	.200	.180	.180	.180	.205	.195	.	.
MAY	.	.170	.	.	.175	.170	.	.
JUN	.170	.180	.145	.	.165	.150	.	.
JUL	.130	.120	.105	.110	.140	.130	.	.
AUG	.095	.100	.105	.115	.125	.130	.	.
SEP	.180	.155	.155	.155	.	.	.155	.145
OCT	.215	.215	.235	.210	.	.	.190	.210
NOV	.	.275	.250	IIS	.	.	.240	.255
DEC	.350	.345	.345	.325	.	.	.310	.320

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	RAW	TREATED	WATER TREATMENT PLANT SITE 1 STANDING	WATER TREATMENT PLANT SITE 1 FREE FLOW	DISTRIBUTION SYSTEM SITE 2 STANDING	DISTRIBUTION SYSTEM SITE 2 FREE FLOW	DISTRIBUTION SYSTEM SITE 3 STANDING	DISTRIBUTION SYSTEM SITE 3 FREE FLOW
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A			
JAN	.320	.150	.210	.170	.150	.140	.	.
FEB	.390	.180	.	.	.200	.190	.	.
MAR	.500	.220	.280	.220	.240	.220	.	.
APR	.400	.170	.190	.210	.210	.180	.	.
MAY	.	.180	.	.	.200	.210	.	.
JUN	.370	.210	.190	.	.190	.190	.	.
JUL	.310	.150	.170	.170	.160	.160	.	.
AUG	.310	.150	.150	.150	.170	.140	.	.
SEP	.350	.160	.170	.170	.	.	.190	.160
OCT	.320	.160	.170	.200	.	.	.170	.150
NOV	.	.180	.200	.190	.	.	.200	.190
DEC	.390	.200	.220	.200	.	.	.220	.210
PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	7.340	8.370	7.810	7.730	7.800	7.880	.	.
FEB	7.580	7.890	.	.	7.800	7.830	.	.
MAR	7.500	7.680	7.710	7.610	7.630	7.640	.	.
APR	7.590	7.720	7.740	7.720	7.830	7.790	.	.
MAY	.	7.660	.	.	7.660	7.670	.	.
JUN	7.330	7.270	7.220	.	7.540	7.560	.	.
JUL	7.610	6.920	7.850	7.760	7.800	7.800	.	.
AUG	7.480	8.010	8.060	8.190	8.100	8.320	.	.
SEP	7.590	7.590	7.730	7.740	.	.	7.760	7.760
OCT	7.650	7.820	7.750	7.750	.	.	7.760	7.790
NOV	.	7.770	7.760	115	.	.	7.780	7.800
DEC	7.690	7.880	7.790	7.790	.	.	7.770	7.820

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A			
JAN	.002 <T	.001 <T	.	.	.	.	.	.
FEB	.002	.005	.	.	.	.	.	.
MAR	.005	.003	.	.	.	.	.	.
APR	.001 <T	.001 <T	.	.	.	.	.	.
MAY	.	.002	.	.	.	.	.	.
JUN	.001 <T	.001 <T	.	.	.	.	.	.
JUL	.000 <T	.000 <T	.	.	.	.	.	.
AUG	.000 <T	.003	.	.	.	.	.	.
SEP	.000 <T	BDL	.	.	.	.	.	.
OCT	.001 <T	.004	.	.	.	.	.	.
NOV	.	.001 <T	.	.	.	.	.	.
DEC	.001 <T	.004	.	.	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)			
JAN	.011	.014	.	.	.	.	.	.
FEB	.014	.012	.	.	.	.	.	.
MAR	.022	.008 <T	.	.	.	.	.	.
APR	.014	.013	.	.	.	.	.	.
MAY	.	.010	.	.	.	.	.	.
JUN	.007 <T	.015	.	.	.	.	.	.
JUL	.009 <T	.004 <T	.	.	.	.	.	.
AUG	.012	.011	.	.	.	.	.	.
SEP	.014	.012	.	.	.	.	.	.
OCT	.013	.008 <T	.	.	.	.	.	.
NOV	.	.013	.	.	.	.	.	.
DEC	.012	.014	.	.	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)			
JAN	7.460	25.100	25.010	25.300	26.550	25.620	.	.
FEB	6.400	21.960	.	.	21.920	21.750	.	.
MAR	7.360	21.110	22.240	21.740	22.100	22.000	.	.
APR	7.560	26.080	26.100	25.760	26.610	25.420	.	.
MAY	.	23.310	.	.	23.970	23.800	.	.
JUN	7.590	20.150	20.500	.	19.600	19.410	.	.
JUL	7.240	21.310	21.270	21.380	21.100	20.880	.	.
AUG	8.790	22.690	22.700	22.720	22.420	22.490	.	.
SEP	8.370	22.310	22.250	22.220	.	.	22.150	22.500
OCT	9.360	23.670	23.950	24.130	.	.	23.570	24.050
NOV	.	27.570	26.930	IIS	.	.	28.640	28.790
DEC	9.830	28.770	29.250	28.780	.	.	29.130	29.130
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)			
JAN	3.500	.460	.470	.450	.440	.400	.	.
FEB	4.300	.590	.	.	.390	.370	.	.
MAR	5.500	.460	.330	.370	.440	.390	.	.
APR	4.100	.470	.770	.460	.530	.460	.	.
MAY	.	.660	.	.	.560	.340	.	.
JUN	1.870	.530	.510	.	.820	.450	.	.
JUL	1.800	.570	.900	.930	.750	.880	.	.
AUG	1.760	.470	.460	.630	.620	.420	.	.
SEP	3.500	1.150	1.470	1.420	.	.	1.160	1.260
OCT	4.700	.450	.530	.640	.	.	.450	.350
NOV	.	.400	.440	.520	.	.	.610	.590
DEC	1.800	.410	.510	.490	.	.	.810	.640

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
METALS								
SILVER (UG/L)				DET'N LIMIT = .020	GUIDELINE = 50. (A1)			
JAN	BDL	BDL	BDL	BDL	BDL	BDL	.	.
FEB	.090 <T	BDL	.	.	.030 <T	.040 <T	.	.
MAR	BDL	.050 <T	.040 <T	BDL	BDL	BDL	.	.
APR	.030 <T	BDL	.060 <T	.030 <T	.050 <T	.050 <T	.	.
MAY	.	BDL	.	.	.030 <T	BDL	.	.
JUN	BDL	BDL	BDL	.	.040 <T	BDL	.	.
JUL	BDL	BDL	.040 <T	.030 <T	BDL	BDL	.	.
AUG	BDL	BDL	BDL	BDL	BDL	BDL	.	.
SEP	BDL	BDL	.030 <T	BDL	.	.	.040 <T	BDL
OCT	BDL	BDL	BDL	BDL	.	.	BDL	BDL
NOV	.	BDL	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL
ALUMINUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = 100.(A4)			
JAN	162.400	162.400	150.800	127.600	139.200	127.600	.	.
FEB	301.600	139.200	.	.	150.800	114.840	.	.
MAR	255.200	116.000	127.600	116.000	150.800	116.000	.	.
APR	185.600	232.000	150.800	174.000	174.000	139.200	.	.
MAY	.	79.000	.	.	110.000	85.000	.	.
JUN	120.000	110.000	100.000	.	170.000	130.000	.	.
JUL	130.000	80.000	100.000	110.000	110.000	110.000	.	.
AUG	180.000	72.000	81.000	78.000	88.000	79.000	.	.
SEP	110.000	76.000	86.000	66.000	.	.	76.000	76.000
OCT	150.000	69.000	68.000	64.000	.	.	62.000	61.000
NOV	.	65.000	78.000	60.000	.	.	79.000	99.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	89.000	140.000	130.000	130.000	.	.	160.000	180.000
ARSENIC (UG/L)			DET'N LIMIT = 0.050 GUIDELINE = 50.0 (A1)					
JAN	1.200	.290 <T	.330 <T	.290 <T	.290 <T	.200 <T	.	.
FEB	1.500	.650 <T	.	.	.730 <T	.650 <T	.	.
MAR	1.600	.740 <T	.910 <T	1.200	1.000 <T	1.000 <T	.	.
APR	1.200	.820 <T	.590 <T	.910 <T	.630 <T	.900 <T	.	.
MAY	.	.650 <T	.	.	.680 <T	.510 <T	.	.
JUN	1.600	1.100	.980 <T	.	1.000 <T	1.000 <T	.	.
JUL	1.400	.790 <T	1.200	1.000 <T	.930 <T	.940 <T	.	.
AUG	1.100	.650 <T	.880 <T	.850 <T	1.000 <T	.910 <T	.	.
SEP	1.200	.620 <T	.630 <T	.670 <T	.	.	.700 <T	.680 <T
OCT	.860 <T	.290 <T	.390 <T	.410 <T	.	.	.330 <T	.600 <T
NOV	.	.700 <T	.600 <T	.370 <T	.	.	.520 <T	.620 <T
DEC	1.000 <T	.240 <T	.360 <T	.240 <T	.	.	.370 <T	.400 <T
BARIUM (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = 1000. (A1)					
JAN	18.000	17.000	21.000	17.000	22.000	17.000	.	.
FEB	18.000	15.000	.	.	21.000	15.000	.	.
MAR	19.000	18.000	23.000	18.000	23.000	17.000	.	.
APR	16.000	15.000	17.000	16.000	20.000	14.000	.	.
MAY	.	18.000	.	.	21.000	18.000	.	.
JUN	19.000	18.000	19.000	.	20.000	18.000	.	.
JUL	18.000	27.000	27.000	20.000	19.000	19.000	.	.
AUG	14.000	13.000	15.000	14.000	16.000	15.000	.	.
SEP	17.000	17.000	18.000	17.000	.	.	17.000	16.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	18.000	16.000	20.000	17.000	.	.	17.000	16.000
NOV	.	17.000	20.000	16.000	.	.	18.000	18.000
DEC	18.000	16.000	20.000	17.000	.	.	18.000	16.000
BORON (UG/L)	DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)							
JAN	9.400 <T	6.300 <T	5.700 <T	4.000 <T	11.000 <T	8.600 <T	.	.
FEB	15.000 <T	12.000 <T	.	.	12.000 <T	12.000 <T	.	.
MAR	41.000	8.300 <T	36.000	24.000	10.000 <T	46.000	.	.
APR	7.900 <T	6.700 <T	11.000 <T	16.000 <T	6.600 <T	14.000 <T	.	.
MAY	.	6.800 <T	.	.	4.300 <T	6.100 <T	.	.
JUN	8.200 <T	7.100 <T	7.300 <T	.	5.700 <T	6.700 <T	.	.
JUL	9.900 <T	10.000 <T	14.000 <T	8.700 <T	8.800 <T	8.100 <T	.	.
AUG	10.000 <T	11.000 <T	12.000 <T	11.000 <T	12.000 <T	10.000 <T	.	.
SEP	7.700 <T	7.600 <T	11.000 <T	9.600 <T	.	.	7.400 <T	9.000 <T
OCT	7.700 <T	6.700 <T	9.800 <T	7.300 <T	.	.	8.500 <T	7.300 <T
NOV	.	6.800 <T	8.900 <T	8.300 <T	.	.	7.500 <T	6.400 <T
DEC	5.400 <T	5.000 <T	7.800 <T	5.000 <T	.	.	6.500 <T	5.200 <T
BERYLLIUM (UG/L)	DET'N LIMIT = 0.010 GUIDELINE = N/A							
JAN	.030 <T	.030 <T	BDL	BDL	BDL	BDL	.	.
FEB	BDL	BDL	.	.	BDL	.020 <T	.	.
MAR	BDL	BDL	BDL	BDL	BDL	BDL	.	.
APR	.070 <T	.050 <T	.110 <T	BDL	BDL	.090 <T	.	.
MAY	.	BDL	.	.	BDL	BDL	.	.
JUN	BDL	BDL	BDL	.	BDL	BDL	.	.
JUL	BDL	.020 <T	BDL	BDL	.040 <T	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	BDL	BDL	BDL	BDL	.	.
SEP	BDL	BDL	BDL	BDL	.	.	BDL	BDL
OCT	.020 <T	BDL	BDL	.030 <T	.	.	BDL	BDL
NOV	.	BDL	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL
CADMIUM (UG/L	)		DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)					
JAN	BDL	BDL	BDL	BDL	.080 <T	BDL	.	.
FEB	.070 <T	BDL	.	.	.290 <T	.070 <T	.	.
MAR	.130 <T	.180 <T	BDL	.240 <T	BDL	.070 <T	.	.
APR	BDL	.090 <T	.090 <T	.070 <T	.110 <T	.060 <T	.	.
MAY	.	.070 <T	.	.	.170 <T	BDL	.	.
JUN	.080 <T	.160 <T	.060 <T	.	.730	BDL	.	.
JUL	.070 <T	.100 <T	.260 <T	.070 <T	.100 <T	BDL	.	.
AUG	BDL	BDL	.070 <T	.070 <T	BDL	.	BDL	BDL
SEP	BDL	BDL	BDL	BDL	.	.	BDL	BDL
OCT	BDL	BDL	BDL	BDL	.	.	BDL	BDL
NOV	.	BDL	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL
COBALT (UG/L	)		DET'N LIMIT = 0.020 GUIDELINE = N/A					
JAN	.160 <T	.110 <T	.090 <T	.140 <T	.140 <T	.100 <T	.	.
FEB	.210 <T	.130 <T	.	.	.110 <T	.110 <T	.	.
MAR	2.200	1.800	.140 <T	.150 <T	.120 <T	.140 <T	.	.
APR	.200 <T	.310 <T	.170 <T	.130 <T	.160 <T	.150 <T	.	.
MAY	.	4.500	.	.	.280 <T	.150 <T	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT RAW	WATER TREATMENT PLANT TREATED	DISTRIBUTION SYSTEM SITE 1 STANDING	DISTRIBUTION SYSTEM SITE 1 FREE FLOW	DISTRIBUTION SYSTEM SITE 2 STANDING	DISTRIBUTION SYSTEM SITE 2 FREE FLOW	DISTRIBUTION SYSTEM SITE 3 STANDING	DISTRIBUTION SYSTEM SITE 3 FREE FLOW
JUN	.290 <T	.120 <T	.050 <T	.	.470 <T	.390 <T	.	.
JUL	4.200	.210 <T	.200 <T	.150 <T	.120 <T	.120 <T	.	.
AUG	.140 <T	.110 <T	.120 <T	.100 <T	.120 <T	.130 <T	.	.
SEP	.150 <T	.080 <T	.030 <T	.030 <T	.	.	.090 <T	.060 <T
OCT	.190 <T	.160 <T	.170 <T	.140 <T	.	.	.140 <T	.130 <T
NOV	.	.090 <T	.090 <T	.090 <T	.	.	.080 <T	.100 <T
DEC	.120 <T	.090 <T	.090 <T	.130 <T	.	.	.100 <T	.140 <T
CHROMIUM (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)					
JAN	.730 <T	.290 <T	.280 <T	BDL	.670 <T	.390 <T	.	.
FEB	2.000	26.000	.	.	1.100	1.200	.	.
MAR	1.500	BDL	.670 <T	.270 <T	BDL	.980 <T	.	.
APR	.760 <T	.300 <T	.610 <T	1.500	.140 <T	1.400	.	.
MAY	.	2.100	.	.	.110 <T	1.300	.	.
JUN	1.300	.970 <T	1.000 <T	.	.330 <T	.870 <T	.	.
JUL	1.200	1.200	1.600	1.400	1.600	1.500	.	.
AUG	1.300	1.200	1.400	1.300	1.400	1.200	.	.
SEP	1.000 <T	.900 <T	1.600	1.700	.	.	.630 <T	1.500
OCT	1.300	.850 <T	1.100	1.300	.	.	1.000 <T	.990 <T
NOV	.	BDL	.320 <T	.340 <T	.	.	BDL	BDL
DEC	BDL	BDL	.780 <T	BDL	.	.	.900 <T	BDL
COPPER (UG/L)			DET'N LIMIT = .100 GUIDELINE = 1000 (A3)					
JAN	19.000	.830 <T	25.000	3.100	46.000	1.900	.	.
FEB	20.000	.930 <T	.	.	64.000	2.400	.	.
MAR	26.000	1.100	39.000	6.300	47.000	2.300	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
APR	21.000	1.100	31.000	3.300	25.000	1.600	.	.
MAY	.	1.100	.	.	34.000	1.900	.	.
JUN	64.000	1.700	3.500	.	51.000	3.800	.	.
JUL	93.000	460.000	43.000	7.300	31.000	8.000	.	.
AUG	80.000	12.000	20.000	3.900	51.000	5.000	.	.
SEP	59.000	39.000	20.000	4.200	.	.	190.000	42.000
OCT	91.000	3.300	41.000	19.000	.	.	240.000	34.000
NOV	.	1.500	27.000	3.800	.	.	120.000	14.000
DEC	32.000	1.900 <T	57.000	17.000	.	.	190.000	18.000
IRON (UG/L)			DET'N LIMIT = 4.000 GUIDELINE = 300. (A3)					
JAN	210.000	37.000 <T	40.000 <T	40.000 <T	39.000 <T	33.000 <T	.	.
FEB	220.000	22.000 <T	.	.	21.000 <T	17.000 <T	.	.
MAR	240.000	27.000 <T	34.000 <T	27.000 <T	14.000 <T	12.000 <T	.	.
APR	220.000	23.000 <T	19.000 <T	13.000 <T	14.000 <T	15.000 <T	.	.
MAY	.	21.000 <T	.	.	23.000 <T	6.900 <T	.	.
JUN	170.000	32.000 <T	13.000 <T	.	41.000 <T	22.000 <T	.	.
JUL	130.000	23.000 <T	40.000 <T	30.000 <T	15.000 <T	15.000 <T	.	.
AUG	100.000	22.000 <T	13.000 <T	15.000 <T	13.000 <T	12.000 <T	.	.
SEP	140.000	13.000 <T	7.100 <T	8.000 <T	.	.	7.500 <T	7.400 <T
OCT	200.000	30.000 <T	20.000 <T	19.000 <T	.	.	12.000 <T	17.000 <T
NOV	.	18.000 <T	8.800 <T	13.000 <T	.	.	11.000 <T	7.600 <T
DEC	180.000	20.000 <T	16.000 <T	16.000 <T	.	.	17.000 <T	16.000 <T
MERCURY (UG/L)			DET'N LIMIT = 0.010 GUIDELINE = 1.000 (A1)					
JAN	.020 <T	.020 <T	.	.030 <T	.	.130	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.030 <T	BDL	.	.	.	.120	.	.
MAR	.020 <T	.020 <T	.	.060	.	.100	.	.
APR	.030 <T	BDL	.	BDL	.	.140	.	.
MAY	.	.040 <T	.	.	.	.130	.	.
JUN	.050 <T	.020 <T	BDL	.	.	.130	.	.
JUL	.070	.060	.	.020 <T	.	.130	.	.
AUG	.090	.100	.	.030 <T	.	.130	.	.
SEP	.120	.130	.	.030 <T	.	.	.	.130
OCT	.110	.140	.	.020 <T	.	.	.	.130
NOV	.	BDL	.	.020 <T	.	.	.	.170
DEC	.020 <T	.020 <T	.	.030 <T	.	.	.	.180
MANGANESE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 50.0 (A3)					
JAN	11.000	9.500	4.600	6.000	7.100	6.900	.	.
FEB	9.900	8.500	.	.	8.100	7.000	.	.
MAR	15.000	12.000	10.000	11.000	8.300	8.500	.	.
APR	12.000	10.000	7.200	7.200	8.300	8.400	.	.
MAY	.	12.000	.	.	5.400	.660	.	.
JUN	13.000	16.000	7.900	.	9.300	7.100	.	.
JUL	15.000	29.000	20.000	16.000	7.400	5.500	.	.
AUG	9.200	6.200	3.200	4.300	5.000	4.600	.	.
SEP	16.000	6.600	3.400	3.900	.	.	4.400	4.700
OCT	16.000	9.600	5.800	3.800	.	.	6.100	5.900
NOV	.	8.700	2.800	5.400	.	.	4.500	4.300
DEC	13.000	9.100	5.100	4.500	.	.	6.500	5.400
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A					

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

		WATER TREATMENT PLANT			DISTRIBUTION SYSTEM			
	SITE TYPE: RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	.180 <T	.120 <T	.130 <T	.170 <T	.140 <T	.130 <T	.	.
FEB	.290 <T	.240 <T	.	.	.270 <T	.310 <T	.	.
MAR	.520	.390 <T	.390 <T	.430 <T	.310 <T	.410 <T	.	.
APR	.250 <T	.230 <T	.260 <T	.240 <T	.240 <T	.230 <T	.	.
MAY	.	.560	.	.	.360 <T	.450 <T	.	.
JUN	.320 <T	.310 <T	.260 <T	.	.410 <T	.370 <T	.	.
JUL	.320 <T	.460 <T	.240 <T	.340 <T	.330 <T	.330 <T	.	.
AUG	.330 <T	.280 <T	.270 <T	.310 <T	.250 <T	.270 <T	.	.
SEP	.180 <T	.200 <T	.180 <T	.190 <T	.	.	.160 <T	.160 <T
OCT	.230 <T	.210 <T	.190 <T	.190 <T	.	.	.230 <T	.190 <T
NOV	.	.210 <T	.180 <T	.190 <T	.	.	.160 <T	.160 <T
DEC	.270 <T	.190 <T	.170 <T	.190 <T	.	.	.170 <T	.180 <T
NICKEL (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)					
JAN	.660 <T	BDL	.290 <T	.320 <T	1.300 <T	BDL	.	.
FEB	1.100 <T	.550 <T	.	.	2.000 <T	.470 <T	.	.
MAR	1.200 <T	.580 <T	.440 <T	.480 <T	.830 <T	.540 <T	.	.
APR	1.100 <T	.700 <T	.970 <T	.500 <T	1.400 <T	.540 <T	.	.
MAY	.	.810 <T	.	.	1.500 <T	.980 <T	.	.
JUN	2.900	BDL	BDL	.	6.400	4.300	.	.
JUL	3.500	6.000	6.300	.630 <T	.960 <T	.510 <T	.	.
AUG	.860 <T	.460 <T	.300 <T	.400 <T	1.300 <T	.280 <T	.	.
SEP	.890 <T	.340 <T	BDL	.340 <T	.	.	.390 <T	.300 <T
OCT	.610 <T	.380 <T	.520 <T	BDL	.	.	.310 <T	.750 <T
NOV	.	BDL	BDL	BDL	.	.	BDL	.240 <T
DEC	.780 <T	BDL	BDL	.240 <T	.	.	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
LEAD (UG/L)			DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)					
JAN	.330	BDL	6.700	.570	14.000	.530	.	.
FEB	.550	.200 <T	.	.	37.000	.750	.	.
MAR	.630	.060 <T	7.200	.980	9.000	.700	.	.
APR	.770	.120 <T	7.100	.580	6.000	.410	.	.
MAY	.	BDL	.	.	6.100	.090 <T	.	.
JUN	.850	.470	.960	.	20.000	.900	.	.
JUL	1.100	.430	14.000	1.100	5.500	.810	.	.
AUG	.370	BDL	4.000	.870	5.900	.690	.	.
SEP	.430	.100 <T	3.900	.680	.	.	3.400	1.200
OCT	.580	.240	13.000	.970	.	.	4.100	.330
NOV	.	.060 <T	3.600	.460	.	.	4.300	.160 <T
DEC	.250 <T	BDL	10.000	.730	.	.	23.000	.390 <T
ANTIMONY (UG/L)			DET'N LIMIT = .050 GUIDELINE = 146. (D4)					
JAN	.310	.300	.450	.410	.420	.510	.	.
FEB	.560	.630	.	.	.700	.660	.	.
MAR	3.700	4.300	.850	.680	.810	.710	.	.
APR	.520	.640	.530	.500	.520	.520	.	.
MAY	.	9.500	.	.	.750	.510	.	.
JUN	.720	.540	.570	.	.790	.970	.	.
JUL	7.100	.620	.600	.630	.670	.610	.	.
AUG	.600	.560	.500	.560	.640	.580	.	.
SEP	.500	.450	.500	.410	.	.	.470	.510
OCT	.320	.320	.540	.530	.	.	.480	.560
NOV	.	.440	.350	.380	.	.	.410	.580
DEC	.290 <T	.370 <T	.440 <T	.340 <T	.	.	.480 <T	.460 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SELENIUM (UG/L)	DET'N LIMIT = 0.200 GUIDELINE = 10. (A1)							
JAN	BDL	BDL	BDL	BDL	BDL	BDL	.	.
FEB	1.300 <T	1.300 <T	.	.	1.400 <T	.630 <T	.	.
MAR	BDL	BDL	BDL	BDL	BDL	.470 <T	.	.
APR	BDL	BDL	BDL	BDL	.450 <T	BDL	.	.
MAY	.	BDL	.	.	.860 <T	BDL	.	.
JUN	BDL	BDL	BDL	.	BDL	BDL	.	.
JUL	1.400 <T	2.300 <T	1.700 <T	BDL	BDL	BDL	.	.
AUG	2.800 <T	1.100 <T	1.800 <T	2.300 <T	BDL	BDL	.	.
SEP	BDL	BDL	BDL	BDL	.	.	BDL	BDL
OCT	BDL	BDL	BDL	BDL	.	.	BDL	BDL
NOV	.	BDL	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL
STRONTIUM (UG/L)	DET'N LIMIT = .050 GUIDELINE = N/A							
JAN	41.000	58.000	59.000	55.000	65.000	56.000	.	.
FEB	37.000	51.000	.	.	58.000	51.000	.	.
MAR	45.000	58.000	62.000	57.000	60.000	57.000	.	.
APR	38.000	52.000	54.000	53.000	61.000	55.000	.	.
MAY	.	54.000	.	.	58.000	58.000	.	.
JUN	41.000	53.000	55.000	.	61.000	57.000	.	.
JUL	40.000	48.000	60.000	58.000	60.000	63.000	.	.
AUG	35.000	52.000	50.000	51.000	58.000	56.000	.	.
SEP	42.000	59.000	62.000	61.000	.	.	63.000	64.000
OCT	47.000	62.000	65.000	62.000	.	.	63.000	61.000
NOV	.	72.000	70.000	69.000	.	.	72.000	72.000
DEC	45.000	60.000	63.000	59.000	.	.	62.000	61.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
TITANIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A					
JAN	8.100	5.700	5.000	4.400	4.300	4.400	.	.
FEB	9.200	3.700	.	.	3.500	3.400	.	.
MAR	13.000	6.100	5.800	5.400	5.600	5.000	.	.
APR	8.600	3.600	3.500	3.200	3.800	2.900	.	.
MAY	.	9.100	.	.	8.800	8.600	.	.
JUN	12.000	11.000	9.800	.	13.000	11.000	.	.
JUL	7.200	5.900	6.700	4.000	3.400	3.200	.	.
AUG	5.400	5.100	5.100	4.800	5.500	5.000	.	.
SEP	8.100	5.000	4.900	5.100	.	.	5.300	4.900
OCT	11.000	6.100	6.200	6.100	.	.	5.800	6.300
NOV	.	5.500	3.600	3.900	.	.	3.300	3.300
DEC	6.800	5.700	4.300 <T	4.300 <T	.	.	4.600 <T	5.200
THALLIUM (UG/L)			DET'N LIMIT = .010 GUIDELINE = 13. (D4)					
JAN	BDL	BDL	BDL	.020 <T	.020 <T	BDL	.	.
FEB	.030 <T	BDL	.	.	.020 <T	BDL	.	.
MAR	.020 <T	.060 <T	.190 <T	BDL	BDL	BDL	.	.
APR	BDL	.020 <T	.030 <T	BDL	BDL	BDL	.	.
MAY	.	BDL	.	.	BDL	BDL	.	.
JUN	.020 <T	.080 <T	.020 <T	.	.020 <T	.020 <T	.	.
JUL	BDL	BDL	BDL	.030 <T	BDL	BDL	.	.
AUG	.020 <T	BDL	.020 <T	.040 <T	.070 <T	.070 <T	.	.
SEP	.030 <T	.030 <T	.020 <T	.020 <T	.	.	.020 <T	BDL
OCT	.020 <T	.020 <T	BDL	BDL	.	.	.030 <T	BDL
NOV	.	.020 <T	.040 <T	.020 <T	.	.	.020 <T	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
URANIUM (UG/L)			DET'N LIMIT = .020 GUIDELINE = 100.(B1)					
JAN	.070 <T	.030 <T	BDL	BDL	.030 <T	BDL	.	.
FEB	.140 <T	.050 <T	.	.	.030 <T	.100 <T	.	.
MAR	.120 <T	.040 <T	.030 <T	.040 <T	BDL	BDL	.	.
APR	.140 <T	.040 <T	.070 <T	.030 <T	.050 <T	BDL	.	.
MAY	.	BDL	.	.	.040 <T	BDL	.	.
JUN	.110 <T	.230	.090 <T	.	.050 <T	.030 <T	.	.
JUL	.110 <T	.090 <T	.080 <T	.080 <T	.040 <T	.040 <T	.	.
AUG	.170 <T	BDL	.060 <T	BDL	.030 <T	.090 <T	.	.
SEP	.070 <T	.040 <T	BDL	BDL	.	.	BDL	BDL
OCT	.070 <T	BDL	BDL	BDL	.	.	BDL	[illegible]
NOV	.	BDL	BDL	BDL	.	.	BDL	.050 <T
DEC	.060 <T	BDL	BDL	BDL	.	.	BDL	BDL
VANADIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A					
JAN	.460 <T	.880	1.000	.750	1.100	.820	.	.
FEB	.590	.890	.	.	1.100	.820	.	.
MAR	.710	.940	1.100	.950	1.100	.950	.	.
APR	.470 <T	.700	.740	.620	.930	.820	.	.
MAY	.	.960	.	.	1.100	.970	.	.
JUN	.510	.960	.870	.	1.200	1.200	.	.
JUL	.550	1.000	.970	1.100	1.100	1.200	.	.
AUG	.620	1.100	.960	1.200	1.100	1.100	.	.
SEP	.520	.840	.960	.710	.	.	1.100	1.000
OCT	.620	1.000	.770	.860	.	.	.910	.820
NOV	.	.870	1.000	.810	.	.	1.100	.820
DEC	.420 <T	1.300	1.100	1.100	.	.	1.000	1.100

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
ZINC (UG/L)			DET'N LIMIT = .001 GUIDELINE = 5000. (A3)					
JAN	3.500	2.200	11.000	2.500	14.000	2.300	.	.
FEB	4.000	2.200	.	.	19.000	2.600	.	.
MAR	5.400	3.500	19.000	4.400	15.000	3.500	.	.
APR	4.200	3.100	17.000	3.700	10.000	2.800	.	.
MAY	.	3.700	.	.	11.000	2.900	.	.
JUN	6.100	4.500	4.000	.	25.000	3.500	.	.
JUL	4.100	12.000	25.000	3.600	7.900	1.800	.	.
AUG	3.000	1.900	16.000	3.000	11.000	1.800	.	.
SEP	4.700	2.100	10.000	2.500	.	.	12.000	2.200
OCT	2.800	2.400	64.000	3.900	.	.	15.000	3.200
NOV	.	1.900	8.000	2.100	.	.	14.000	1.800
DEC	2.700	2.200	56.000	3.300	.	.	37.000	3.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE		WATER TREATMENT PLANT				DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB								
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)			
JAN	1.000 <T	2.000 <T	.	2.000 <T	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	1.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T	.	.
APR	BDL	BDL	.	1.000 <T	.	1.000 <T	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	IRE	IRE	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	1.000 <T	BDL	.	BDL	.	.	.	BDL
NOV	.	1.000 <T	.	1.000 <T	.	.	.	1.000 <T
DEC	BDL	1.000 <T	.	BDL	.	.	.	1.000 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT						DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2		SITE 3			
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW		
PHENOLICS (UG/L)	PHENOLICS		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)					
JAN	3.000	2.800	.	.	.	.	.	.		
FEB	6.000	2.200	.	.	.	.	.	.		
MAR	5.600	2.600	.	.	.	.	.	.		
APR	3.600	2.800	.	.	.	.	.	.		
MAY	.	1.000	.	.	.	.	.	.		
JUN	1.800	INR	.	.	.	.	.	.		
JUL	3.600	3.200	.	.	.	.	.	.		
AUG	1.200	1.800	.	.	.	.	.	.		
SEP	6.400	2.200	.	.	.	.	.	.		
OCT	2.400	1.800	.	.	.	.	.	.		
NOV	.	4.600	.	.	.	.	.	.		
DEC	BDL	.400 <T	.	.	.	.	.	.		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES								
BENZENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 5.0 (81)				
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	.050 <T	.050 <T	.	.	.050 <T	.	.
JUL	.100 <T	.050 <T	.	BDL	.	.050 <T	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
TOLUENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 24.0 (84)				
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	.100 <T	.	.100 <T	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	.100 <T	.	.	.	.050 <T	.	.
JUN	BDL	.200 <T	.050 <T	.	.	.100 <T	.	.
JUL	.150 <T	.200 <T	.	.100 <T	.	.150 <T	.	.
AUG	BDL	.050 <T	.	BDL	.	BDL	.	.
SEP	.050 <T	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	1.150	.	.	.	BDL
NOV	.	BDL	.	.050 <T	.	.	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	BDL	.100 <T	.	.050 <T	.	.	.	.050 <T
ETHYLBENZENE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 2.4 (B4)					
JAN	.050 <T	.100 <T	.	BDL	.	BDL	.	.
FEB	BDL	.050 <T	.	.	.	BDL	.	.
MAR	.100 <T	.100 <T	.	.150 <T	.	.100 <T	.	.
APR	BDL	BDL	.	BDL	.	.150 <T	.	.
MAY	.	.050 <T	.	.	.	.050 <T	.	.
JUN	BDL	.100 <T	BDL	.	.	BDL	.	
JUL	BDL	.050 <T	.	.100 <T	.	.050 <T	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
P-XYLENE (UG/L)			DET'N LIMIT = .100 GUIDELINE = 300 (B4)					
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	.200 <T	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	.	.	BDL
SEP	BDL	BDL	.	BDL	.			

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
M-XYLENE (UG/L)			DET'N LIMIT = .100 GUIDELINE = 300 (84)					
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	.200 <T	.200 <T	.	.200 <T	.	.100 <T	.	.
APR	BDL	.100 <T	.	BDL	.	.500 <T	.	.
MAY	.	.100 <T	.	.	.	.100 <T	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	.100 <T	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
O-XYLENE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 300 (84)					
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	.050 <T	.100 <T	.	.100 <T	.	.050 <T	.	.
APR	BDL	BDL	.	.050 <T	.	.200 <T	.	.
MAY	.	BDL	.	.	.	.050 <T	.	.
JUN	BDL	.050 <T	.050 <T	.	.	BDL	.	.
JUL	BDL	.050 <T	.	.100 <T	.	.100 <T	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
STYRENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 46.5 (D2)				
JAN	.250 <T	.400 <T	.	.200 <T	.	.250 <T	.	.
FEB	BDL	.400 <T	.	.	.	.150 <T	.	.
MAR	.400 <T	.450 <T	.	.900 <T	.	.250 <T	.	.
APR	BDL	BDL	.	.050 <T	.	.100 <T	.	.
MAY	.	.350 <T	.	.	.	.100 <T	.	.
JUN	BDL	.350 <T	BDL	.	.	.150 <T	.	.
JUL	.050 <T	.100 <T	.	.350 <T	.	.200 <T	.	.
AUG	BDL	BDL	.	.050 <T	.	.150 <T	.	.
SEP	BDL	BDL	.	.050 <T	.	.	.	BDL
OCT	BDL	BDL	.	.150 <T	.	.	.	.050 <T
NOV	.	.250 <T	.	.150 <T	.	.	.	.100 <T
DEC	BDL	.150 <T	.	BDL	.	.	.	BDL
CHLOROFORM (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)				
JAN	.300 <T	85.600	.	66.500	.	66.000	.	.
FEB	.700 <T	65.700	.	.	.	60.700	.	.
MAR	.500 <T	40.000	.	40.000	.	51.400	.	.
APR	.200 <T	81.800	.	71.300	.	72.700	.	.
MAY	.	99.600	.	.	.	97.700	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.600 <T	122.000	126.000	.	.	143.000	.	.
JUL	.400 <T	109.000	.	221.000	.	240.000	.	.
AUG	4.700	185.000	.	175.000	.	175.000	.	.
SEP	BDL	174.000	.	172.000	.	.	.	180.000
OCT	.400 <T	167.000	.	141.000	.	.	.	149.600
NOV	.	119.000	.	113.000	.	.	.	113.700
DEC	.200 <T	113.200	.	104.600	.	.	.	101.400
111, TRICHLOROETHANE (UG/L)				DET'N LIMIT = .020 GUIDELINE = 200 (D1)				
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	.020 <T	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	.020 <T	.	BDL	.	.	.	.020 <T
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 350 (A1+)				
JAN	BDL	1.550	.	1.400	.	2.250	.	.
FEB	BDL	1.300	.	.	.	1.200	.	.
MAR	BDL	1.000	.	.950	.	1.200	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
APR	BDL	1.500	.	1.450	.	1.400	.	.
MAY	.	1.400	.	.	.	1.450	.	.
JUN	BDL	1.750	1.700	.	.	1.950	.	.
JUL	BDL	2.350	.	3.250	.	3.450	.	.
AUG	BDL	3.200	.	2.950	.	3.000	.	.
SEP	BDL	3.250	.	2.850	.	.	.	2.850
OCT	BDL	2.700	.	2.500	.	.	.	2.700
NOV	.	2.500	.	2.250	.	.	.	2.350
DEC	BDL	1.450	.	1.550	.	.	.	1.600
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)				
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	.100 <T	.	.100 <T	.	.100 <T	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
T-CHLOROETHYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 10.0 (C2)				
JAN	BDL	BDL	.	BDL	.	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	.050 <T	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	.050 <T	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	.100 <T	.	BDL	.	.	.	BDL
1,3 DICHLOROBENZENE (UG/L)			DET'N LIMIT = .100 GUIDELINE = 130 (G)					
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	.100 <T	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
ETHLYENE DIBROMIDE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 50.0 (G)					

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA USS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	BDL	.	BDL	.	BDL	.	.
FEB	BDL	BDL	.	.	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL	.	.
APR	BDL	BDL	.	BDL	.	BDL	.	.
MAY	.	BDL	.	.	.	BDL	.	.
JUN	BDL	BDL	BDL	.	.	BDL	.	.
JUL	BDL	BDL	.	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	.150 <T	.	.	.	BDL
NOV	.	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL
TOTL TRIHALOMETHANES (UG/L)				DET'N LIMIT = .500 GUIDELINE = 350 (A1)				
JAN	BDL	87.150	.	67.900	.	68.250	.	.
FEB	.700 <T	67.000	.	.	.	61.900	.	.
MAR	.500 <T	41.000	.	40.950	.	52.600	.	.
APR	BDL	83.300	.	72.750	.	74.100	.	.
MAY	.	101.000	.	.	.	99.150	.	.
JUN	.600 <T	123.750	127.700	.	.	144.950	.	.
JUL	BDL	111.450	.	224.350	.	243.550	.	.
AUG	4.700 <T	188.200	.	177.950	.	185.000	.	.
SEP	BDL	177.250	.	174.850	.	.	.	182.850
OCT	BDL	169.700	.	143.500	.	.	.	152.300
NOV	.	121.500	.	115.250	.	.	.	116.050
DEC	BDL	114.650	.	106.150	.	.	.	103.050

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (BRITANNIA) 1989

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML(A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C(A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500(A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20(A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100(A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	30.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	
PARATHION	NG/L	20.	50000.	(B1)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
PHORATE (THIMET)	NG/L	20.	2000. (B3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	90000. (B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	90000. (B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05 G)
METHYLENE CHLORIDE	UG/L	.500	50. (B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70. (D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0 (D5)
TRICHLOROETHYLENE	UG/L	.100	50. (B1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	60. (D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0 (B4)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0 (B4)
TRIFLUOROCHLOROTOLUENE	UG,L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	140. (D5)